

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-8 and 13-14 are pending in the application. Claims 1, 3, 5 and 7 are amended; and Claims 13-14 are added by the present amendment. Support for the new and amended claims can be found in the original specification, claims and drawings.¹ No new matter is presented.

In the outstanding Official Action, Claims 1-4 were rejected under 35 U.S.C. § 102(b) as anticipated by Rauschnabel et al. (WO 99/63129, hereinafter Rauschnabel, citations provided from U.S. Patent 6,613,393); and Claims 5-8 were rejected under 35 U.S.C. §103(a) as unpatentable over Rauschnabel in view of Miller et al. (U.S. Patent 6,627,050, herein Miller).

In response to the rejections noted above, Applicant respectfully submits that amended independent Claims 1 and 5 recite novel features clearly not taught or rendered obvious over the applied references.

Amended independent Claim 1 recites, in part, a sputtering apparatus, wherein:

...a first shutter of the first sputtering source and a second shutter of the second sputtering source are configured to be ***opened simultaneously***, and the first plasma generator and the second plasma generator are configured to be ***operated simultaneously***.

Independent Claim 5, while directed to an alternative embodiment, is amended to recite substantially similar features. Accordingly, the remarks and arguments presented below are applicable to each of amended independent Claims 1 and 5.

As described, for example, at p. 22, l. 17-p. 25, l. 25; and p. 30, l. 12-p. 32, l. 14 of the specification, by this simultaneous operation, two types of materials are deposited alternately

¹ E.g., specification, p. 22, l. 17-p. 25, l. 25; p. 30, l. 12-p. 32, l. 14; and p. 22, ll. 16-19.

(by each of the deposition areas) so that each film is far thinner, as example about single-molecular layer, than the wavelength of questioned light, and a film as lamination of these film functions as it were a uniformly mixed film.

Turning to the applied reference, Rauschnabel describes a method for applying a wear protection layer system having optical properties on two surfaces. As shown in Figs. 4 and 5 the substrate 41 is located on the flat top surface the turntable 50 while being rotated amongst various compartments 47, 48, 49 and 50 in a coating process.

Rauschnabel, however, fails to teach or suggest that the sputtering systems 61, 62 of his apparatus include “a first shutter of the first sputtering source and a second shutter of the second sputtering source... configured to be *opened simultaneously*, and the first plasma generator and the second plasma generator are configured to be *operated simultaneously*”, as recited in amended independent Claims 1 and 5.

Instead, col. 4, l. 40-col. 5, l. 8 and col. 6, ll. 21-34 of Rauschnabel, for example, describes an example of a polysiloxane film in which fine particles are dispersed, formed by carrying out plasma vapor deposition (PVD) and chemical vapor deposition (CVD) in combination. In Rauschnabel, the polysiloxane film is a wear-resistant film having particles mixed in the film as an UV protection agent, which exhibit different functions and constitute a complex film (e.g., dispersed film of particles).

In contrast, in the present invention, a plurality of extremely thin films are laminated to constitute an optically homogenous film. Such a process is enabled by *simultaneously opening* a first shutter of the first sputtering source and a second shutter of the second sputtering source, and *simultaneously operating* the first plasma generator and the second plasma generator. Rauschnabel, however, fails to teach or suggest these above noted claimed features, and moreover, fails to teach or suggest the use of shutters at each of the sputtering sources, whatsoever.

Miller, is relied upon only to address the claim features directed to the placement of the exhaust ports, as recited in independent Claim 5, and fails to remedy the above noted deficiencies of Rauschnabel.

Therefore, Rauschnabel and Miller, neither alone, nor in combination, teach or suggest a sputtering apparatus, wherein "...a first shutter of the first sputtering source and a second shutter of the second sputtering source are configured to be *opened simultaneously*, and the first plasma generator and the second plasma generator are configured to be *operated simultaneously*", as recited in independent Claims 1 and 5.

Accordingly, Applicant respectfully requests that the rejection of Claims 1 and 5 (and Claims 2-4 and 5-8, which respectively depend therefrom) under 35 U.S.C. § 102 and 35 U.S.C. § 103 be withdrawn.

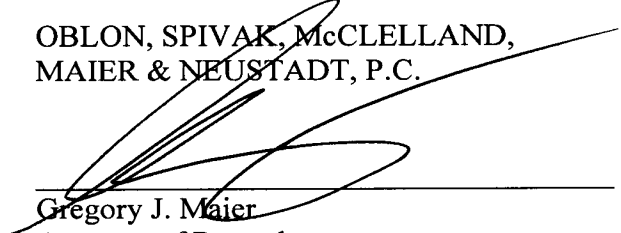
Further, new Claims 13 and 14 are added, which recite that "two different types of metals are employed as target materials, and each type of metal is oxidized by plasma and deposited." Neither Rauschnabel nor Miller teach or suggest the features of independent Claims 1 and 5 wherein the targets are two different types of metals.

Accordingly, Applicant respectfully submits that new dependent Claims 13 and 14 patentably define over the applied references.

Consequently, in view of the present amendment and light of the foregoing comments, it is respectfully submitted that the invention defined by Claims 1-8 and 13-14 is patentably distinguishing over the applied references. The present application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of the application is therefore requested.

Respectfully submitted,

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